Appendix A - Inputs & Results

2004 Democratic National Convention
Boston, Massachusetts
Event Dates: July 26 to July 29, 2004

1. Estimation of Gross Convention Economic Impact, Regional Economic Modeling, Inc. (REMI)

Metropolitan Area Economic Impact

Detail of Metropolitan Economic Impact

	Total	Suffolk	Rest of Metro
Gross Regional Product (GRP)	$ 154,155,120	$ 82,211,080	$ 71,944,040
Gross Personal Income	137,381,800	80,824,800	56,557,000
Wage and Salary Disbursements	107,680,000	63,420,000	44,260,000
Net Personal Income (w/ residence adjustment)	106,189,800	28,334,800	77,855,000
Direct Metropolitan Spending Impact:	$ 126,084,521	$ 104,713,857	$ 21,370,664
Guest Spending	$ 61,583,878	$ 40,213,214	$ 21,370,664
Host Committee Spending	$ 64,500,643	$ 64,500,643	$ -
Indirect Metropolitan Value-Added Impact:	$ 28,070,599	$ (22,502,777)	$ 50,573,376
"Multiplier" Value	1.223	0.785	3.366

Return on Investment

Multiplier Return on Total Spending	22.3%	-21.5%	236.6%
Boston 2004 Host Committee	139.0%	27.5%	NA

2004 Democratic National Convention
Boston, Massachusetts
Event Dates: July 26 to July 29, 2004

2. Estimation of Gross and City (Boston) Tax Impact

Tax Impact

	Massachusetts	Boston	Metro	Total
Personal Income Tax	$ 5,310,500	N/A	N/A	$ 5,310,500
Corporate & Business Excise Tax	$ 1,137,963	N/A	N/A	$ 1,137,963
Sales Tax	$ 905,872	N/A	N/A	$ 905,872
Meals	$ 721,434	N/A	N/A	$ 721,434
Excise Tax*	$ 2,265,311	$ 844,898	$ 617,326	$ 3,727,535
Rooms	$ 1,673,433	$ 358,389	$ 617,326	$ 2,649,148
Licenses, Permits, Fees & Other**	$ 1,068,630	$ 1,114,354	N/A	$ 2,182,984
Total	$ 10,688,275	$ 1,959,252	$ 617,326	
	80.6%	14.8%	4.7%	
Grand Total Tax Impact				$ 13,264,853
				100.0%
Ratio of State to City Tax Impact	5.5	1.0		

* Includes alcohol, motor vehicle fuel, and tobacco excises for the Commonwealth and Jet Fuel for the City of Boston

** Includes vehicle rental surcharge, sightseeing, motor vehicle licensing and unemployment insurance contributions for the Commonwealth and local vehicle rental surcharge for Boston

NOTE: Some revenue presented here is committed to special purposes for both the Commonwealth and the City of Boston and will not be available for appropriation.

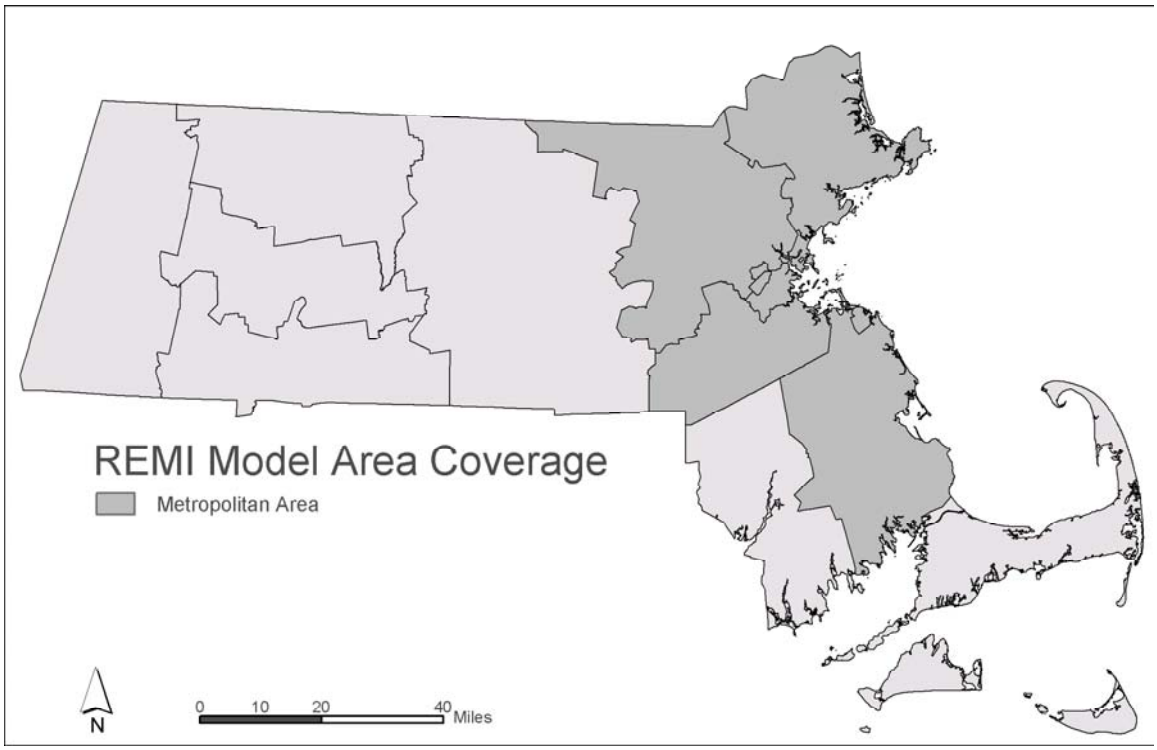
REMI Geography

Boston

Suffolk County	Boston, Chelsea, Revere, Winthrop

Five-County Metro- Area

Suffolk	Boston, Chelsea, Revere, Winthrop
Norfolk	Avon, Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxborough, Franklin, Holbrook, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Plainville, Quincy, Randolph, Sharon, Stoughton, Walpole, Wellesley, Westwood, Weymouth, Wrentham
Middlesex	Acton, Arlington, Ashby, Ashland, Ayer, Bedford, Belmont, Billerica, Boxborough, Burlington, Cambridge, Carlisle, Chelmsford, Concord, Dracut, Dunstable, Everett, Framingham, Groton, Holliston, Hopkinton, Hudson, Lexington, Lincoln, Littleton, Lowell, Malden, Marlborough, Maynard, Medford, Melrose, Natick, Newton, North Reading, Pepperell, Reading, Sherborn, Shirley, Somerville, Stoneham, Stow, Sudbury, Tewksbury, Townsend, Tyngsborough, Wakefield, Waltham, Watertown, Wayland, Westford, Weston, Wilmington, Winchester, Woburn
Essex	Amesbury, Andover, Beverly, Boxford, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Lynn, Lynnfield, Manchester-by-the-Sea, Marblehead, Merrimac, Methuen, Middleton, Nahant, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salem, Salisbury, Saugus, Swampscott, Topsfield, Wenham, West Newbury
Plymouth	Abington, Bridgewater, Brockton, Carver, Duxbury, East Bridgewater, Halifax, Hanover, Hanson, Hingham, Hull, Kingston, Lakeville, Marion, Marshfield, Mattapoisett, Middleborough, Norwell, Pembroke, Plymouth, Plympton, Rochester, Rockland, Scituate, Wareham, West Bridgewater, Whitman



REMI version 5.5 - Variables in DNC Run
January, 2004
Total Dollar Impact

GUEST SPENDING

OVERALL ASSUMPTIONS	Value	Metric	Source
Delegates, Media and Support	35,000	People	Los Angeles Study (PKF)
Average Stay	6.9	Weighted Average	BRA/OBM/Los Angeles Study calculation
		Days	GBCVB Data
People per Room	1.6	Ratio	Los Angeles Study (PKF)
Rooms Needed	21,875	Number	BRA/OBM calculation
Room Days	150,938	Number	BRA/OBM calculation
Visitor Days	241,500	Number	BRA/OBM calculation
HOTELS			
Boston Daily Room Rate (all)	$ 218.90	Weighted Average	GBCVB Data/Pinnacle
Metro Daily Room Rate (all)	$ 178.99	Weighted Average	GBCVB Data/Pinnacle
Hospitality Suite (Boston only)	$ 12.00	per day, per person	GBCVB Data/Pinnacle
Boston Revenue (Net of loss)*	$ 12,150,914	Dollars	BRA/OBM calculation
Metro Revenue (Net of loss)*	$ 15,139,964	Dollars	BRA/OBM calculation
Sub-total	$ 27,290,878	Dollars	BRA/OBM calculation
SALES			
Meals/Beverages	$ 62.00	per people day	GBCVB Data
Retail	$ 38.00	per people day	GBCVB Data
Entertainment	$ 16.00	per people day	GBCVB Data
Other	$ 8.00	per people day	GBCVB Data
	$ 124.00		
Boston 85%	$ 25,454,100	Dollars	BRA/OBM calculation
Metro 15%	$ 4,491,900	Dollars	BRA/OBM calculation
Sub-total	$ 29,946,000	Dollars	BRA/OBM calculation
TRANSPORTATION			
Cab, Limo, T	$ 18.00	per people day	GBCVB Data
Boston 60%	$ 2,608,200	Dollars	BRA/OBM calculation
Metro 40%	$ 1,738,800	Dollars	BRA/OBM calculation
Sub-total	$ 4,347,000	Dollars	BRA/OBM calculation
TOTAL Guest Spending	$ 61,583,878	Dollars	BRA/OBM calculation

*Hotel spending includes the estimated incremental cost of increased room rates to non-convention block room convention-related guests and to all other hotel guests during the Convention week.

REMI version 5.5 - Variables in DNC Run
January, 2004
Total Dollar Impact

HOST COMMITTEE SPENDING*

Host Committee	Budgeted Funds	REMI Industry	Factor
56 state and territorial delegation events	$ 1,000,000	Hotels, Eating, non-profit org.	Hotels 34%, Eating 33%, Non-profit 33%
Media reception	$ 800,000	Eating, Amusement and Rec.	50% each
Hospitality lounges	$ 200,000	Amusement and Rec.	100%
DNCC hospitality lounge	$ 100,000	Amusement and Rec.	100%
Information kiosks	$ 65,000	Miscellaneous Business Services	100%
Delegate packets	$ 400,000	Printing	100%
Directional signs	$ 20,000	Printing	100%
Volunteer coordinator and support staff	$ 100,000	Misc. Business Services	100%
People with disabilities coordinator and staff	$ 100,000	Misc. Business Services	100%
Staff transportation	$ 39,900	Local and Interurban Transportation	100%
Public demonstration area	$ 100,000	Construction	100%
Outreach coordinator and support staff	$ 100,000	Misc. Business Services	100%
Sub-total	$ 3,024,900		
Production			
Lighting system	$ 1,026,000	Professional	100%
Audio system	$ 500,000	Communication	100%
In-house communication system	$ 75,000	Communication	100%
Teleprompter system	$ 150,000	Communication	100%
LEDs or digital video projector system	$ 162,000	Professional	100%
Production designer	$ 100,000	Professional	100%
Podium backdrop	$ 1,026,000	Professional	100%
Decorations, balloon drop, delegation placards	$ 378,000	Misc. Business Services	100%
Production personnel	$ 1,782,000	Misc. Business Services	100%
Sub-total	$ 5,199,000		
Convention Complex			
FleetCenter lease	$ 3,500,000	Amusement & Rec.	100%
TV control room, satellite, video facilities	$ 800,000	communications	100%
Electrical power/electrical distribution	$ 810,000	Public Utilities	100%
Janitorial services	$ 231,120	Services to Dwellings and Other Buildings	100%
Construction manager, architects, engineers, contractor	$ 531,300	Engineering and Architectural Services	100%
Construction and set assembly	$ 3,375,000	Construction	100%
Media work space	$ 5,720,000	New Communications Facilities	100%
Equipment, vehicle, satellite, truck space	$ 690,000	Real Estate	100%
Other convention complex items	$ 871,500	Misc. Business Services	100%
Sub-total	$ 16,528,920		
Insurance Obligations	$ 3,950,000	Insurance	100%
Data Communications	$ 2,732,750	Rest of Retail	100%
Hotel and Low-Cost Housing	$ 130,800	Misc. Business Services	100%
Office Space	$ 2,559,723	Real Estate	100%
Security	$ 25,000,000	Local Government	100%
Telecommunications	$ 2,966,500	Public Utilities	100%
Transportation	$ 1,719,170	Local and Interurban Transportation	100%
Host Committee Contingency	$ 100,000	Misc. Business Services	100%
DNC Committee Contingency	$ 588,880	Misc. Business Services	100%
Grand Total	$ 64,500,643		

REMI Total of Inputs from DNC Budget by Industry

Industry		Spending	Industry Group
Printing	$	420,000	Manufacturing
Construction	$	3,475,000	Construction
New Communications Facilities	$	5,720,000	Construction
Local and Interurban Transportation	$	1,759,070	TCU
Communication	$	1,525,000	TCU
Public Utilities	$	3,776,500	TCU
Hotels	$	340,000	Retail
Eating and Drinking	$	730,000	Retail
Rest of Retail	$	2,732,750	Retail
Real Estate	$	3,249,723	FIRE
Insurance	$	3,950,000	FIRE
Non-profit Organizations	$	330,000	Services
Amusement and Recreation	$	4,200,000	Services
Miscellaneous Business Services	$	4,216,180	Services
Miscellaneous Professional Services	$	2,314,000	Services
Services to Dwellings and Other Buildings	$	231,120	Services
Engineering and Architectural Services	$	531,300	Services
State & Local Government spending	$	25,000,000	Police

TOTAL	$	64,500,643

State Tax Assumptions

	Effective Tax Rate*	Direct or Induced Revenue	Estimated Tax Collections
Personal Income Tax	5.00%	$ 106,210,000	$ 5,310,500
Sales			
Tangible*	5.00%	$ 3,278,226	$ 163,911
Services*	5.00%	$ 410,531	$ 20,527
Meal*	5.00%	$ 14,428,680	$ 721,434
Motor Vehicle	5.00%	$ -	$ -
Corporate Income Tax***	9.50%	$ 7,552,895	$ 717,525
Other Business Excises			
Insurance	1.92%	$ 3,950,000	$ 75,840
Public Utility	6.50%	$ 5,301,500	$ 344,598
Financial Institution	10.50%		
Excise Taxes			
Alcoholic Beverages***	$1.05, $0.55, $0.11 /gal.		$ 35,079
Motor Fuels***	$0.21 /gal.		$ 409,255
Tobacco***	$1.51 /pack		$ 147,544
Room Occupancy	5.70%		$ 1,390,394
Convention Center Room Fee	2.75%		$ 283,039
Other Taxes & Fees			
Vehicle Rental Surcharge	$10.00		$ 31,500
Sightseeing	5.00%		$ 17,500
Other**	Misc.		$ 1,019,630

*Note: includes MBTA/CCF portion of sales taxes
Other Business Excise Tax effective rates calculated from A Report on 1999 Corporate Excise Returns, December 2002, Massachusetts Department of Revenue, Office of Tax Policy Analysis.
**Includes Motor Vehicle Licenses and Unemployment Insurance Contributions
***Taken from Federation of Tax Administrators - February 2003

Boston Tax Assumptions

		Effective Tax Rate		Estimated Revenue
Excise Taxes				
Local Option Jet Fuel*		$.05 /gal.	$	486,509
Local Option Rooms		4.00%	$	358,389
	Sub-total		$	844,898
Licenses, Permits, Fees & Fines				
Fiber Optic Access Fees*		negotiated	$	429,346
Building Permits*		$10/$1,000 cost	$	420,093
Other Licenses, Permits, Fees & Fines*		various	$	261,415
	Sub-total		$	1,110,854
Other Taxes & Fees				
Local Vehicle Rental Surcharge		$1.00/contract	$	3,500
	Sub-total		$	3,500

*Amounts calculated by the Office of Budget Management, City of Boston, based on historical correlation to Room Occupancy Excise Tax collections.

BOSTON HOTEL PIPELINE

5-Jan-04

Name	Address	Rooms	Type	Renov. or New Const	Completion	
COMPLETED SINCE JULY 1, 1997:						
Club Quarters	161 Devonshire	170	corp. members	Reuse	Q3	1997
Custom House	Custom House St.	84	time share	Reuse	Q3	1997
Harborside Inn	185 State St.	56	tourist	Reuse	Q4	1997
Seaport Hotel	Northern Avenue	427	luxury	New Const.	Q2	1998
Chalet Inn of Boston	*900 Morrisey Blvd.*	*28*	*expansion*	*addition*	Q2	*1998*
Holiday Inn Express	*69R Boston St.*	*18*	*expansion*	*Net gain*	Q2	*1998*
Hilton Expansion Phase I	*Prudential Center*	*44*	*expansion*	*New Const.*	Q2	*1998*
Bostonian addition phase 1	*North & Blackstone Sts.*	*11*	*expansion*		Q3	*1998*
Club by Doubletree	Mt. Vernon St.	212	moderate price	New Const.	Q2	1999
Bostonian addition phase II	*North & Blackstone Sts.*	*38*	*expansion*		Q3	*1999*
Wyndham Boston Hotel	89 Broad St.	362	full service	Reuse	Q 3	1999
Airport Hilton	Airport	600	87 Net new	New Const.	Q 3	1999
15 Beacon St.	15 Beacon St.	61	bousique	Reuse	Q1	2000
Club by Doubletree	Washington Street	268		New Const.	Q3	2000
Beacon Hill Hotel	Charles St.	13	full service	Reuse	Q4	2000
Best Western "Roundhouse"	891 Mass. Ave.	92		Reuse	Q1	2001
Ritz on the Common	Millennium Place	191	luxury suites	New Const.	Q2	2001
Millennium Place Extended Stay	Millennium Place	63	extended stay	New Const.	Q2	2001
Charlesmark Hotel	657 Boylston St.	33		Reuse	Q1	2002
Nine Zero	90 Tremont	190		New Const.	Q3	2002
Embassy Suites	Porter/Cottage/Geneva	272		New Const.	Q1	2003
Commonwealth Hotel	Kenmore Square	149		New Const.	Q2	2003
Marriott Residence Inn	Tudor Wharf	168		New Const.	Q2	2003
SUBTOTAL		3,550	new rooms			
		3,411	*Rooms in 18 new Hotels*			
		139	*Rooms in 5 expansions*			
UNDER CONSTRUCTION:						
Courtyard by Marriott	88 Exeter St., Back Bay	81		Reuse	Q1	2004
Jurys Doyle/ Saunders	Berkeley St.	220		Reuse	Q1	2004
Hotel Clarion (formerly Europa)	115 Merrimack St.	88		Reuse/New	Q2	2004
Hotel Onyx (Kimpton Boutique)	155 Portland St.	112		New Const.	Q1	2004
Hampton Inn / Crosstown	Melnea Cass/Mass. Ave.	175	limited service	New Const.	Q2	2004
SUBTOTAL		676	rooms, all in new hotels			
TOTAL OF ROOMS COMPLETED, OR UNDER CONSTRUCTION		4,226	new rooms			
		4,087	rooms in new hotels			
APPROVED:						
Courtyard by Marriott	33 W. Howell; South Bay, Roxbury	164		New Const.	Q3	2005
Marriott Renaissance	Massport Parcel F	438		New Const.	Q4	2005
Ames Building	1 Court Street	133		Reuse	Q4	2005
Mandarin Oriental	Boylston Street @ Prudential Center	150	Luxury	New Const.	Q1	2006
Charles Street Jail Reuse	at M.G.H. / Red Line	305		Reuse/New	Q2	2006
Westin BCEC Headquarters Hotel (Phase I)	Summer Street	790		New Const.	Q4	2006
Boston Edison Site/ Intercontinental	500 Atlantic Ave.	420		New Const.	Q1	2007
Loews/Sawyer	Stuart & Tremont Streets	395		New Const.	Q2	2007
Battery Wharf Regent		144		New Const.	Q3	2007
Grand Hyatt	Fan Pier	600		New Const.	Q4	2008
Columbus Center	Turnpike Air Rights/ S. End-Bay Village	207		New Const.	Q4	2008
Westin BCEC Headquarters Hotel (Phase II)	Summer Street	320		New Const.	Q4	2008
SUBTOTAL		4,066	rooms, all in new hotels			
APPROVAL PROCESS INITIATED:						
Pier 4	South Boston Waterfront	220		New Const.		
Massport Parcel D2	Summer Street, South Boston Waterfront	600		New Const.		
Hoosac Stores Building	Charlestown	115		Reuse		
Russia Wharf	Atlantic Ave.	300		New Const.		
SUBTOTAL		1,235				
GRAND TOTAL		9,527	new rooms			
		9,388	rooms in new hotels			

Calculation of Net Hotel Activity by Market

Baseline July Hotel Market Activity	July Occ.	July Rrate	Total Rooms	Occ. Rooms	Vac. Rooms		6.9 day Revenue		5.70% State Tax		2.75% CCF Fee		4.00% Local Tax		Total Tax
Boston	80%	$ 160.00	16,240	12,992	3,248	$	14,343,168	$	817,560.58	$	394,437.12	$	573,726.72	$	1,785,724.42
Cambridge	80%	$ 160.00	2,535	2,028	507	$	2,238,912	$	127,617.98	$	61,570.08	$	89,556.48	$	278,744.54
Metro	72%	$ 117.00	26,998	19,439	7,559	$	15,692,749	$	894,486.72		NA	$	627,709.98	$	1,522,196.70
			45,773	34,459	11,314	$	32,274,829	$	1,839,665	$	456,007	$	1,290,993	$	3,586,666
				21875											
Convention Delegates - Discounted Block Rooms															
Boston	100%	$ 206.04	9,771	9,771	-	$	13,891,196	$	791,798.18	$	382,007.90	$	555,647.85	$	1,729,453.93
Cambridge	100%	$ 199.79	1,526	1,526	-	$	2,103,669	$	119,909.12	$	57,850.89	$	84,146.75	$	261,906.77
Metro	100%	$ 137.86	1,752	1,752	-	$	1,666,562	$	94,994.03		NA	$	66,662.48	$	161,656.51
			13,049	13,049	-	$	17,661,427	$	1,006,701	$	439,859	$	706,457	$	2,153,017
Other Business/Overflow Convention Business															
Boston	95%	$ 241.12	6,469	5,357	812	$	9,411,709	$	536,467.43	$	258,822.01	$	376,468.37	$	1,171,757.81
Cambridge	95%	$ 241.12	1,009	982	127	$	1,467,824	$	83,665.97	$	40,365.16	$	58,712.96	$	182,744.09
Metro	95%	$ 170.59	25,246	23,396	1,350	$	28,126,747	$	1,603,224.57		NA	$	1,125,069.87	$	2,728,294.44
			32,724	30,435	2,289	$	39,006,280	$	2,223,358	$	299,187	$	1,560,251	$	4,082,796
Total Convention Week Business															
Boston			16,240	15,428		$	23,302,905	$	1,328,265.61	$	640,829.90	$	932,116.22	$	2,901,211.73
Cambridge			2,535	2,408		$	3,571,493	$	203,575.09	$	98,216.05	$	142,859.71	$	444,650.86
Metro			26,998	25,648		$	29,793,309	$	1,698,218.60		NA	$	1,191,732.35	$	2,889,950.95
						$	56,667,707	$	3,230,059	$	739,046	$	2,266,708	$	6,235,814
				Increase from Baseline			75.6%								

Net New Spending and Taxes by Area between normal and convention weeks

Boston	$ 8,959,737.49	$ 510,705.04	$ 246,392.78	$ 358,389.50	$ 1,115,487.32
Cambridge	$ 1,332,580.85	$ 75,957.11	$ 36,645.97	$ 53,303.23	$ 165,906.32
Metro	$ 14,100,559.27	$ 803,731.88	NA	$ 564,022.37	$ 1,367,754.25
	$ 24,392,877.62	$ 1,390,394.02	$ 283,038.75	$ 975,715.10	**$ 2,649,147.88**

Net New Tax Revenue

State	$ 1,673,432.78
Boston	$ 358,389.50
Cambridge	$ 53,303.23
Metro	$ 564,022.37
Total	**$ 2,649,147.88**

REMI OUTPUT

Variable		Change to 2004$ 1.246
Employment (Thous)	2.527	
GRP (Bil Chained 96$)	0.119	
GRP (Bil Fixed 96$)	0.1237	$ 154,130,200
Pers Inc (Bil Nom $)	0.1062	$ 106,200,000
PCE-Price Index (Fixed 96$)	0.003616	
Real Disp Pers Inc (Bil Fixed 96$)	0.06863	
Population (Thous)	0.4324	
Econ Migrants	0.4277	
Total Migrants	0.4277	
Labor Force	0.5005	
Demand (Bil Fixed 96$)	0.2423	
Output (Bil Fixed 96$)	0.1904	$ 237,238,400
Delivered Price	3.09E-05	
Rel Cost of Production	4.61E-05	
Labor Intensity	-7.15E-07	
Labor Access Index	1.26E-05	
Indust Mix Index	0	
Reg Pur Coeff (SS over Dem)	6.00E-05	
Imports (Bil Fixed 96$)	0.06919	$ 86,210,740
Self Supply (Bil Fixed 96$)	0.1731	$ 215,682,600
Exports to Multiregions (Bil Fixed 96$)	0	
Exports to Rest of Nation (Bil Fixed 96$)	0.01235	$ 15,388,100
Exp to Rest of World (Bil Fixed 96$)	0.004982	$ 6,207,572
Wage Rate (Thous Nom$)	-0.002178	

Income

Variable (Bil nominal $'s)		
As a % of Nation	0.001104	
Wage & Sal Disb	0.1077	$ 107,700,000
Prop & Oth Lab Inc	0.02747	
Lab & Prop Inc	0.1351	
Soc Ins Contrib	0.007694	
Net Res Adj	-0.01593	
Div&Int&Rent	0.002232	
Trans Pymnts	-0.007568	
Pers Inc	0.1062	
Taxes	0.01758	
Disp Pers Inc	0.08864	
Gross Personal Income	0.12378	$ 123,780,000

Consumption (Bil Fixed 96$'s)		Change to 2004$
Variable		1.246
Vehicles and Parts	0.004875	$ 6,074,250
Computers & Furniture	0.008485	$ 10,572,310
Other Durables	0.002631	$ 3,278,226
Food & Bev	0.01158	$ 14,428,680
Clothing & Shoes	0.009425	$ 11,743,550
Gasoline & Oil	0.001761	$ 2,194,206
Fuel Oil & Coal	0.0001888	$ 235,245
Other Non-Durbls	0.005704	$ 7,107,184
Housing	0.003836	$ 4,779,656
Hsehold Operat	0.005574	$ 6,945,204
Transportation	0.003562	$ 4,438,252
Medical Care	0.001808	$ 2,252,768
Other Services	0.01645	$ 20,496,700
	0.07588	$ 94,546,231

		Change to 2004$
		1.063
State Revenues (Bil 2001 $'s)		
Federal Intergovernmental	0.0005298	$ 563,177
Local Intergovernmental	3.76E-05	$ 39,990
Property Tax	9.87E-09	$ 10
General Sales Tax	0.00265	$ 2,816,950
Motor Fuel Sales Tax	0.000385	$ 409,255
Alcoholic Bev Sales Tax	3.30E-05	$ 35,079
Tobacco Sales Tax	1.39E-04	$ 147,544
Public Utility Sales Tax	0	$ -
Other Sales Tax	0.0003862	$ 410,531
Individual Income Tax	0.004699	$ 4,995,037
Corporate Income Tax	0.000675	$ 717,525
Motor Vehicle License	0.0001129	$ 120,013
Other Tax	0.0002271	$ 241,407
Education Charges	0.0006581	$ 699,560
Other Charges & Rev	0.002017	$ 2,144,071
Utility&Liquor Store Rev	3.75E-05	$ 39,873
Unemployment Comp.	0.0008463	$ 899,617
Employee Retirement	0.0005986	$ 636,312
Workers' Comp.	3.97E-05	$ 42,180
Other Ins. Trust Rev	0	$ -

REMI RESULTS OF DNC STUDY

SUFFOLK COUNTY

Economic Impact (96$)		Change to 2004$	
Variable	2004		1.246
Employment (Thous)	1.487		
GRP (Bil Chained 96$)	0.06344		
GRP (Bil Fixed 96$)	0.06598	$	82,211,080
Pers Inc (Bil Nom $)	0.02834		
PCE-Price Index (Fixed 96$)	0.006409		
Real Disp Pers Inc (Bil Fixed 96$)	0.01787		
Population (Thous)	0.1353		
Econ Migrants	0.1337		
Total Migrants	0.1337		
Labor Force	0.1249		
Demand (Bil Fixed 96$)	0.1065		
Output (Bil Fixed 96$)	0.08922		
Delivered Price	5.93E-05		
Rel Cost of Production	9.62E-05		
Labor Intensity	-1.19E-06		
Labor Access Index	1.96E-05		
Indust Mix Index	0		
Reg Pur Coeff (SS over Dem)	-2.61E-05		
Imports (Bil Fixed 96$)	0.04316		
Self Supply (Bil Fixed 96$)	0.0633		
Exports to Multiregions (Bil Fixed 96$)	0.01308		
Exports to Rest of Nation (Bil Fixed 96$)	0.007708		
Exp to Rest of World (Bil Fixed 96$)	0.005126		
Wage Rate (Thous Nom$)	-0.02468		

Income (Bil Nominal $)			
Variable	2004		
As a % of Nation	0.0002946		
Wage & Sal Disb	0.06342	$	63,420,000.00
Prop & Oth Lab Inc	0.01667	$	16,670,000.00
Lab & Prop Inc	0.08009	$	80,090,000.00
Soc Ins Contrib	0.004441	$	4,441,000.00
Net Res Adj	-0.04648	$	(46,480,000.00)
Div&Int&Rent	0.0007348	$	734,800.00
Trans Pymnts	-0.001569	$	(1,569,000.00)
Pers Inc	0.02834	$	28,340,000.00
Taxes	0.004873	$	4,873,000.00
Disp Pers Inc	0.02347	$	23,470,000.00

4 COUNTY REGION

Economic Impact (96$)		Change to 2004$	
Variable	2004		1.246
Employment (Thous)	1.04		
GRP (Bil Chained 96$)	0.05552		
GRP (Bil Fixed 96$)	0.05774	$	71,944,040
Pers Inc (Bil Nom $)	0.07787		
PCE-Price Index (Fixed 96$)	0.00296		
Real Disp Pers Inc (Bil Fixed 96$)	0.05076		
Population (Thous)	0.2971		
Econ Migrants	0.2941		
Total Migrants	0.2941		
Labor Force	0.3756		
Demand (Bil Fixed 96$)	0.1358		
Output (Bil Fixed 96$)	0.1012		
Delivered Price	2.42E-05		
Rel Cost of Production	3.15E-05		
Labor Intensity	-5.36E-07		
Labor Access Index	1.03E-05		
Indust Mix Index	0		
Reg Pur Coeff (SS over Dem)	2.15E-05		
Imports (Bil Fixed 96$)	0.05378		
Self Supply (Bil Fixed 96$)	0.08205		
Exports to Multiregions (Bil Fixed 96$)	0.01467		
Exports to Rest of Nation (Bil Fixed 96$)	0.004642		
Exp to Rest of World (Bil Fixed 96$)	-0.0001431		
Wage Rate (Thous Nom$)	3.05E-05		

Income (Bil Nominal $)			
Variable	2004		
As a % of Nation	0.0008093		
Wage & Sal Disb	0.04426	$	44,260,000.00
Prop & Oth Lab Inc	0.0108	$	10,800,000.00
Lab & Prop Inc	0.05506	$	55,060,000.00
Soc Ins Contrib	0.003253	$	3,253,000.00
Net Res Adj	0.03055	$	30,550,000.00
Div&Int&Rent	0.001497	$	1,497,000.00
Trans Pymnts	-0.005999	$	(5,999,000.00)
Pers Inc	0.07787	$	77,870,000.00
Taxes	0.0127	$	12,700,000.00
Disp Pers Inc	0.06517	$	65,170,000.00

Sample of Suburban Hotel Rates

		July 26-29 Convention	Aug 2-5 "Normal"	$ Change	% Change
Hawthorn	Arlington	$ 300.00	$ 160.00	$ 140.00	87.5%
Sheraton	Braintree	$ 325.00	$ 158.00	$ 167.00	105.7%
Hampton Inn	Burlington	$ 109.00	$ 109.00	$ -	0.0%
Radison	Chelmsford	$ 119.00	$ 99.00	$ 20.00	20.2%
Hilton	Dedham	$ 149.00	$ 159.00	$ (10.00)	-6.3%
Holiday Inn Express	Lexington	$ 109.95	$ 109.95	$ -	0.0%
Doubletree	Lowell	$ 252.00	$ 99.00	$ 153.00	154.5%
Crown Plaza	Natick	$ 270.00	$ 170.00	$ 100.00	58.8%
Hampton Inn	Natick	$ 204.00	$ 159.00	$ 45.00	28.3%
Holiday Inn	Newton	$ 252.00	$ 186.00	$ 66.00	35.5%
Park Inn	Newton	$ 172.95	$ 128.28	$ 44.67	34.8%
Holiday Inn	Peabody	$ 147.00	$ 107.00	$ 40.00	37.4%
Days Inn	Saugus	$ 149.00	$ 92.00	$ 57.00	62.0%
Holiday Inn	Somerville	$ 179.00	$ 179.00	$ -	0.0%
Comfort Inn	Woburn	$ 169.00	$ 119.00	$ 50.00	42.0%
Hampton Inn	Woburn	$ 99.00	$ 99.00	$ -	0.0%
Four Points Sheraton	Woburn	$ 309.95	$ 129.95	$ 180.00	138.5%
Radisson	Woburn	$ 175.95	$ 139.95	$ 36.00	25.7%
	Averages	$ 193.99	$ 133.51	$ 60.48	45.8%

Office of Budget Management, City of Boston
Expedia.com 2/10/2004

Sample of Boston Hotels

Ramada Inn	Boston	$ 279.00	$ 192.33	$ 86.67	45.1%
Quality Inn	Boston	$ 279.95	$ 193.28	$ 86.67	44.8%
Best Western	Boston	$ 209.95	$ 209.95	$ -	0.0%
Holiday Inn Express	Boston	$ 239.95	$ 129.95	$ 110.00	84.6%
Shawmut Inn	Boston	$ 249.95	$ 209.95	$ 40.00	19.1%
Howard Johnson Fenway	Boston	$ 299.95	$ 159.95	$ 140.00	87.5%
Best Western	Cambridge	$ 399.95	$ 199.95	$ 200.00	100.0%
Hotel @ MIT	Cambridge	$ 402.00	$ 402.00	$ -	0.0%
Wyndham	Chelsea	$ 249.95	$ 139.95	$ 110.00	78.6%
Four Points Sheraton	Logan	$ 249.00	$ 139.00	$ 110.00	79.1%
Hampton Inn	Logan	$ 249.95	$ 209.95	$ 40.00	19.1%
	Averages	$ 282.69	$ 198.75	$ 83.94	50.7%

Office of Budget Management, City of Boston
Hotels.com 2/12/2004

Appendix B – General Information

Model Overview

Regional Economic Models, Inc. (REMI®), provides REMI Policy Insight®, the leading forecasting and policy analysis model. Since 1980, REMI has developed models that answer "what if...?" questions about the effect of policy initiatives on the economy of local regions. The model is based on past and current research and development, which is subject to peer review and published in academic journals. REMI Policy Insight is currently used by hundreds of governmental agencies, universities, and others.

REMI's founder, Dr. George I. Treyz, developed the methodology used in REMI's socioeconomic modeling system in order to improve the quality of research-based decision making in the public and private sectors. A research team currently led by Drs. George and Frederick Treyz continues to enrich and deepen REMI's powerful dynamic analytic engine. The latest version is based in part on a REMI prototype set forth in the November 2000 issue of the *Journal of Regional Science*. It is designed for regional areas of varying sizes in the U.S., the E.U., and Canada.

The forecasting and policy analysis system includes key econometric estimates and integrates inter-industry transactions, long run equilibrium features, and the new economic geography. It includes: substitution among factors of production in response to changes in relative factor costs; migration responses to changes in expected income; labor participation rate responses to changes in real wage and employment conditions; wage rate responses to labor market changes; consumer consumption responses to changes in real disposable income and commodity prices; and local, regional, and market shares responses to changes in regional production costs and agglomeration economics.

The REMI Policy Insight's unique power is to generate realistic year-by-year estimates of the total regional effects of any specific policy initiative. A wide range of policy variables allows the user to represent the policy to be evaluated while the explicit structure in the model helps the user to interpret the predicted economic and demographic effects. The model is calibrated to many sub-national areas for policy analysis and forecasting, and is available in single- and multi-area configurations. Each calibrated area (or region) has economic and demographic variables, as well as policy variables so that any policy that affects a local economy can be tested.

REMI Policy Insight is used by government agencies (including a vast majority of state governments), consulting firms, nonprofit institutions, universities, and public utilities. REMI model simulations estimate comprehensive economic and demographic effects in wide-ranging initiatives such as: economic impact analysis; policies and programs for economic development, transportation, infrastructure, environment, energy and natural resources; and state and local tax changes. Articles about the model equations and research findings have been published in professional journals such as the *American Economic Review*, *The Review of Economic Statistics*, *the Journal of Regional Science*, and the *International Regional Science Review*.

Economic Multipliers and Local Economic Impact Analysis

David Kay, Cornell Local Government Program
December 2002

"Superhospital Study Projects $28-million Annual Gain"
"Power Project Would Employ 700, Have a Huge Economic Impact"
"University Study Shows California Parade To Be Economic Gem"

Introduction

Headlines like these recent real-life examples are prized by project promoters and business boosters. They often appear when advocates for private sector projects are seeking public support. The dollar figures featured in the stories are large, even "huge". They signal to readers both economic importance and political significance.

An economic multiplier lies behind nearly all such headlines. Multipliers are typically used to turn large dollar impacts into even larger ones. They do this because they translate project-specific effects into economy-wide impacts.
The local spending impacts associated directly with a specific project or economic activity are the starting point of any impact analysis. Known or planned facility construction and operating expenditures are a typical example. Called "direct effects", they are nearly always the most important data to estimate well in any impact analysis. To estimate economy-wide impacts, numbers known as multipliers are literally multiplied by the direct effects.

Citizens, elected officials, journalists, planning commissioners, neighborhood organizers, business persons and many others concerned with economic growth and development can benefit from a basic understanding of multipliers and their uses and abuses. Those who understand will be better prepared to separate the useful wheat from the promotional chaff of economic impact study reports. They should be better prepared to ask the questions that will help them go behind the "gee whiz" headlines.

Economic Multipliers

An economic multiplier is a number used to estimate economy-wide impacts of industry-specific economic changes. Multipliers are generated from numerical or statistical models of a national or regional economy. Using models, multipliers can be calculated for every business or industry sector in the economy. A multiplier is always greater than one because it is a ratio that is calculated by dividing a) the estimated total effect resulting from a given economic "shock" to the economy by b) a necessarily smaller partial effect, namely the direct project- or activity-specific effect.

Each multiplier can be thought of as an empirical, quantified measurement of the strength of the economic linkages between a given industry or economic sector and the rest of the regional economy. The greater the extent of the linkages, the greater the size of the multiplier. The greater the multiplier, the greater the economy-wide dollar or employment impact of any given stimulus to one industry or sector of the economy.

Final Demand Changes, Multiplier Rounds, and Leakage

There are at least three key concepts that must be understood to understand what lies behind the use of most multipliers. The first is the concept of an economic stimulus through a ***change in final demand.*** The second is the notion of ***a chain of spending and respending*** that is set into motion by an initial economic stimulus. The third is the notion of ***"leakage"*** from a local economy. *"Final demand"* refers to the sales of economic goods and services to purchasers who are the ultimate users or consumers of these products. The demand is "final" as opposed to "intermediate". In other words, the goods and services are valued in and of themselves rather than for their usefulness in the economic production of new goods and services.

When final demand increases, a kind of chain reaction of economic events is triggered. The initial stimulus of new spending sets into motion a series of additional spending and respending activities. Most multipliers are used with the presumption that, in a precise mirror image of an increase, any decrease in existing final demand sets into motion a whole series of spending contractions. The best way to explain this may be to give an example (using a spending increase).

Assume the overall final demand for locally made ice cream increases significantly, say boosting sales by $100,000 because of a successful non-local advertising campaign. The local ice-cream manufacturer's receipts then increase, but that is not the end of the money trail. In order to meet the increased demand, the manufacturer will typically respond by increasing production. To do this, the firm will use some portion of the $100,000 to buy more inputs in the form of additional goods and services. The additional inputs for new ice cream production will include ingredients like cream, sugar, fruits, and chocolate; paper and ink for more containers; more electricity and water; more labor; perhaps even new equipment; and so on. But again, this is not the end of the money trail. Each of the ice-cream manufacturer's suppliers will respond in similar fashion. As demand for their products increase, so they too will increase their purchases of all the inputs they require for their production processes. Ultimately, the chain of input purchases is likely to reach far beyond the sectors of the economy that are most obviously linked to ice cream production.

Increased purchases of inputs by business firms are not the only way in which the economic stimulus of increased final demand diffuses throughout the economy. People also benefit from increased demand as workers or business owners earn more. They are very unlikely to stash all of their increased revenues

unproductively in a cookie jar. More likely, they will spend some or all of that money on a wide variety of new consumer goods and services, not to mention new investments. Depending on their income classes, purchasers of new consumer goods will likely spend across the full spectrum from cookies to cars to piano lessons. Next, as the grocery stores, car dealers, and piano teachers respond to this increased demand, they will in turn increase their own purchases of inputs to their businesses. Moreover, any owners and employees in these businesses will have additional income or profit to spend on still other goods and services.

At first glance, this cycle of spending and respending seems like it might continue without end. However, this is not the case. The reason can be summarized in the term *"leakage"*. Leakage represents the dollars that are withdrawn from the respending cycle.

Insofar as they are not respent, the withdrawn dollars cannot stimulate further purchases. Starting right at the very first round of spending associated with an increase in final demand, and continuing in all subsequent rounds, a certain portion of the dollars will "leak" out of the economy.
Because of leakage, at each round of spending and respending, the dollar amount re-spent diminishes. The amount that it diminishes is usually averaged across the entire process and summarized in percentage terms.
A small amount of leakage may indeed end up in a cookie jar or under someone's mattress. However, leakage more importantly is associated with other sources including:

- other forms of long term saving and nonlocal investment
- increased tax payments
- spending on goods and services that are not produced locally, (e.g. domestic and foreign imports)

While it is true that some of what is termed leakage here may eventually be re-spent locally, this is not likely to be immediate or automatic. If such spending does occur, it would generally be considered a new increase in final demand.
A single city or county, especially in a rural area, is much more likely to experience high levels of leakage. This is because, compared to a state or nation, most "small" economies are more dependent on the need to buy many goods and services produced outside its boundaries. For this reason, it is nearly always but not necessarily true that multipliers for small geographic areas are smaller than for larger ones.

In fact, a couple of the more likely errors behind exaggerated economic impact reports pertain to misunderstandings of the role of geographic boundaries. One is the misapplication of a large area multiplier (state and national multipliers are usually easier to acquire at low cost) to a small area like a county. Another is the failure to account for the fact that new consumer spending that is associated with one new project in a regional economy (a retail mall, for example) may be partly

or even fully counterbalanced by reduced consumer spending at existing, competitive facilities within the same region.

Many Kinds of Multipliers

One of the reasons references to multipliers can be confusing is that there are a number of different kinds of multipliers that can be calculated. Multipliers often vary in their unit of measurement or denominator (e.g. output, jobs, income). I-O multipliers also vary in the assumptions they make about the relationship between increased worker and investor incomes and subsequent consumer spending behavior.

An *employment multiplier* summarizes the number of total jobs in the economy that will be created for each new job created directly by a given increase in final demand. An *output multiplier* represents the total value of new sales that will be stimulated in the economy for each dollar increase in final demand. And the *income multiplier* indicates the total amount of new income that will be generated for each dollar of income earned by workers in the industry directly affected by the increased final demand.

Any one of these multipliers is as valid to use as any others. The choice of which to use depends upon what issues are being studied and what kinds of measures are of greatest salience to the intended audience. These three kinds of multipliers are often calculated before others because they tend to have high political salience.

For a longer version of this article or further information on multipliers or impact analyses in New York and Pennsylvania, and for contacts in other states, please contact David Kay or Dr. Martin Shields - Penn State University

Appendix C - Sources

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